Appendix A5. Project design standards for road and trail improvements.

General Requirements

1. Knowledgeable and trained personnel *(e.g.,* park manager, hydrologist or engineer) must be involved in the design and implementation of all road and trail improvements.
2. Appropriate pollution and erosion controls must be implemented, as needed, on road and trail improvements to prevent erosion.
3. Road and trail improvements should be inspected at regular intervals, especially after heavy rainfall, to ensure they are properly functioning.

Techniques and Materials

1. A road or trail entrance closed by ditching must have the disturbed areas stabilized and revegetated (*e.g.,* seeded and mulched) as soon as possible.
2. An abandoned or decommissioned road or trail must be revegetated with native vegetation to the extent needed to prevent erosion.
3. Till compacted road and trail surfaces, as needed, to promote vegetation establishment and growth.
4. Ensure that drainage patterns on a altered road or trail will not result in increased sediment transport to downslope habitats. Use the most effective methods (*e.g.,* water bars, rolling dips, adding durable surface materials, and reshaping the road surface) to keep water from accumulating on a road or trail surface.
5. Fill excavated during the temporary or permanent removal of a road or trail culvert must be placed and stabilized at an appropriate upland disposal site. Grade the sides of the stream crossing at a 2:1 or greater slope to reduce erosion potential.
6. Install water energy dissipaters on all cross drainage culvert outfalls (*e.g.,* culvert extensions and rock piles) to prevent downslope erosion.
7. Cross drains should be inspected for damage or blockage before and during the rainy season.
8. Do not sidecast excavated road or trail materials and avoid accumulating or spreading these materials in or near aquatic habitats.
9. Road and trail improvements must be completed and stabilized before the rainy season.